

July 2015

Atchison County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 20 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Atchison County economy.¹ These 20 sectors have a total direct output of approximately \$589 million and support 1,025.8 jobs in Atchison County. Running the model for all 20 sectors simultaneously produces the following results:

Agriculture Contribution in Atchison County

Impact Type ²	Employment	% of Total Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	1,025.8	11%	\$107,057,303	17%	\$589,252,362	94%
Indirect Effect	371.6	4%	\$36,193,280	6%	\$63,847,275	10%
Induced Effect	273.0	3%	\$17,215,657	3%	\$30,310,792	5%
Total Effect	1,670.4	17%	\$160,466,240	26%	\$683,410,428	109%

As shown in the above table, agriculture, food, and food processing supports 1,670.4 jobs, or 17% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$683 million, roughly 109% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 20 agriculture, food, and food processing sectors is approximately \$160 million, or 26% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 26% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

⁴ GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

⁵ Output = Intermediate Inputs + Value Added

In the top ten by employment, Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming is the top employer in the agriculture industry with 244.0 employees. This table also shows the amount of jobs that are created by the agriculture industry in Atchison County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	244.0	\$28,772,726
Flour milling.....	157.4	\$243,743,011
Other animal food manufacturing.....	154.2	\$231,277,036
Grain farming	140.9	\$22,453,820
All other crop farming.....	137.6	\$7,943,628
Wholesale trade.....	72.7	\$14,447,919
Veterinary services	49.8	\$2,724,008
Real estate.....	41.5	\$6,290,483
Rail transportation.....	40.1	\$18,905,585
Support activities for agriculture and forestry	36.2	\$2,282,374

The Flour milling industry directly contributes approximately \$244 million to Atchison County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Flour milling.....	157.4	\$243,743,011
Other animal food manufacturing.....	154.2	\$231,277,036
Oilseed farming	29.5	\$29,042,007
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	244.0	\$28,772,726
Grain farming	140.9	\$22,453,820
Rail transportation.....	40.1	\$18,905,585
Wholesale trade.....	72.7	\$14,447,919
Roasted nuts and peanut butter manufacturing	15.5	\$9,978,328
All other crop farming.....	137.6	\$7,943,628
Owner-occupied dwellings	0.0	\$6,496,140

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Atchison County's economy.

[illegible]

All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.